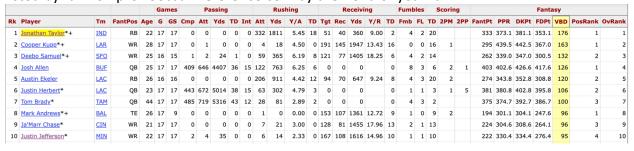
David Parsons IST 652 Final Project Report

## **Data and Source:**

The data used in this analysis was scrapped from pro-football-reference.com using the BeautifulSoup and requests libraries. The website has tables embedded into the games that allowed for a good visualization of what is all available. Since this analysis was focused on fantasy football the fields that were scrapped were selected based on which ones would be used in determining the best players and opposing matchups. This was done by going to the fantasy football pages for the 2019 – 2021 seasons and getting the game logs for which ever players performed the best in those respective seasons.

## **Exploration and Cleaning:**

For exploration and cleaning to make sure there were no outliers entries of bench players or players who missed substantial time with injuries. Below is screenshot of how the players were listed by rank on pro-football-reference.com by their end of year rank.



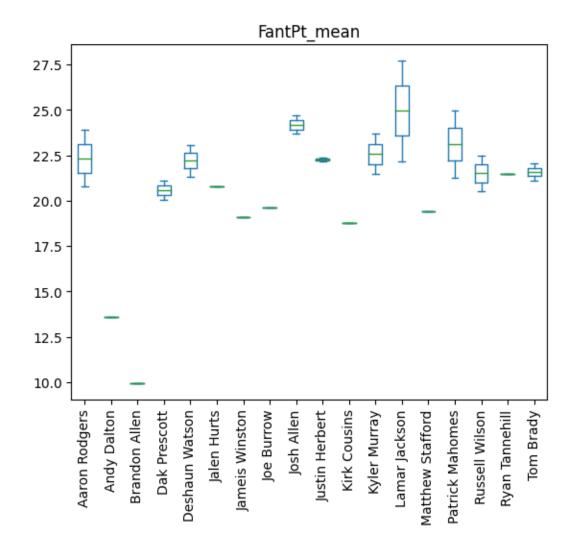
This list was iterated over to get the top players and go to their player page and get their game logs (example below). The game number, date, opponent, FantPt, name, position, and home field values were scrapped from those select players.

									Inside 20						Inside 10								9	Snap C						
								Rushing			Receiving				Rushing				Receiving			Off.		Def.		ST		Fantasy		
Rk	G#	Date	Tm		Орр	Result	Pos	Att	Yds	TD	Tgt	Rec '	Yds	TD	Att	Yds	TD	Tgt	Rec	Yds	TD	Num	Pct	Num	Pct	Num	Pct	FantPt	DKPt	FDPt
1	1	2021-09-12	IND		SEA	L 16-28	RB	5	21	0	1	1	7	0	3	0	0	1	1	7	0	42	55.3%	0	0.0%	0	0.0%	11.60	17.6	14.6
2	2	2021-09-19	IND		LAR	L 24-27	RB	7	16	0					5	-1	0	0	0	0	0	30	44.8%	0	0.0%	0	0.0%	5.30	6.3	5.8
3	3	2021-09-26	IND	@	<u>TEN</u>	L 16-25	RB	1	6	0					0	0	0	0	0	0	0	29	47.5%	0	0.0%	0	0.0%	7.20	8.2	7.7
4	4	2021-10-03	IND	@	MIA	W 27-17	RB	6	10	0					2	-5	0	0	0	0	0	36	50.7%	0	0.0%	0	0.0%	17.40	23.4	18.9
5	5	2021-10-11	IND	@	BAL	L 25-31	RB	5	3	1					1	4	1	0	0	0	0	36	52.2%	0	0.0%	0	0.0%	28.90	34.9	30.4
6	6	2021-10-17	IND		HOU	W 31-3	RB	4	16	2					3	5	1	0	0	0	0	31	64.6%	0	0.0%	0	0.0%	27.80	31.8	28.3
7	7	2021-10-24	IND	@	<u>SFO</u>	W 30-18	RB	6	9	1					3	3	1	0	0	0	0	47	69.1%	0	0.0%	0	0.0%	15.00	22.0	16.5
8	8	2021-10-31	IND		<u>TEN</u>	L 31-34	RB	3	16	1					1	1	1	0	0	0	0	59	73.8%	0	0.0%	0	0.0%	18.20	21.2	19.7
9	9	2021-11-04	IND		<u>NYJ</u>	W 45-30	RB	7	22	0					5	9	0	0	0	0	0	43	69.4%	0	0.0%	0	0.0%	32.00	37.0	33.0
10	10	2021-11-14	IND		<u>JAX</u>	W 23-17	RB	6	30	1	1	1	6	0	2	8	1	0	0	0	0	54	84.4%	0	0.0%	0	0.0%	18.60	27.6	21.6
11	11	2021-11-21	IND	@	<u>BUF</u>	W 41-15	RB	10	33	4					5	19	4	0	0	0	0	57	82.6%	0	0.0%	0	0.0%	50.40	56.4	51.9
12	12	2021-11-28	IND		<u>TAM</u>	L 31-38	RB	4	9	1					1	4	1	0	0	0	0	49	71.0%	0	0.0%	0	0.0%	15.70	19.7	17.7
13	13	2021-12-05	IND	@	HOU	W 31-0	RB	7	40	2					4	12	2	0	0	0	0	55	76.4%	0	0.0%	0	0.0%	24.30	28.3	24.3
14	14	2021-12-18	IND		NWE	W 27-17	RB	6	14	0					2	1	0	0	0	0	0	51	98.1%	0	0.0%	0	0.0%	23.00	26.0	23.0
15	15	2021-12-25	IND	@	<u>ARI</u>	W 22-16	RB	5	7	0					2	3	0	0	0	0	0	55	78.6%	0	0.0%	0	0.0%	10.80	13.8	10.8
16	16	2022-01-02	IND		<u>LVR</u>	L 20-23	RB	1	1	1					1	1	1					41	70.7%	0	0.0%	0	0.0%	17.40	21.4	17.9
17	17	2022-01-09	IND	@	JAX	L 11-26	RB	2	-2	0					1	0	0	0	0	0	0	52	91.2%	0	0.0%	0	0.0%	9.50	12.5	11.0

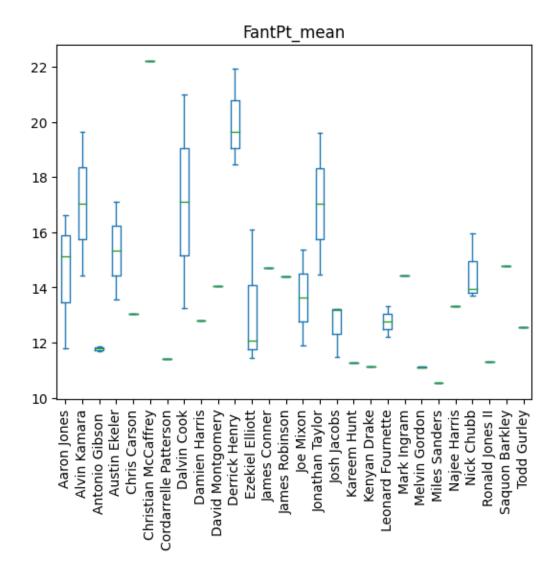
## **Analysis:**

The analysis was broken into four main questions: what the best seasons by each position were, who were the best players overall in the 2019 – 2021 seasons, which players produced the highest scoring games, and which opposing teams were the easiest matchups for each position.

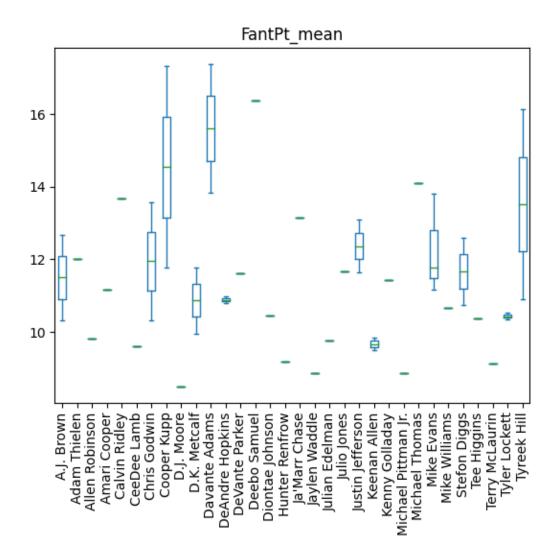
For the quarterback position Lamar Jackson was shown to be the best. He had the highest median FantPts as well as the highest scoring season in 2019. Patrick Mahomes and Josh Allen were the over other quarterbacks to average over 23 FantPts per game during this time frame.



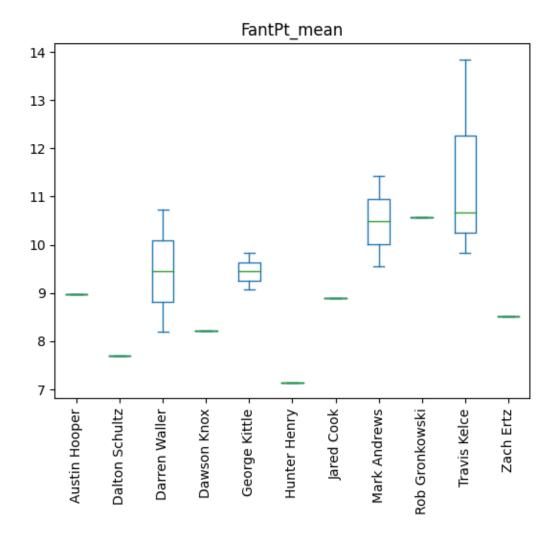
The running backs performed at a slightly lower average than the quarterbacks but there were a few that were able to perform near the best quarterbacks. Christian McCaffery's 2019 season was the best overall at 22.2 FantPts per game. The player with the highest median was Derrick Henry. 10 running backs had a season averaging over 15 FantPts with six of those being able to have a median still above that threshold for the 2019 – 2021 seasons.



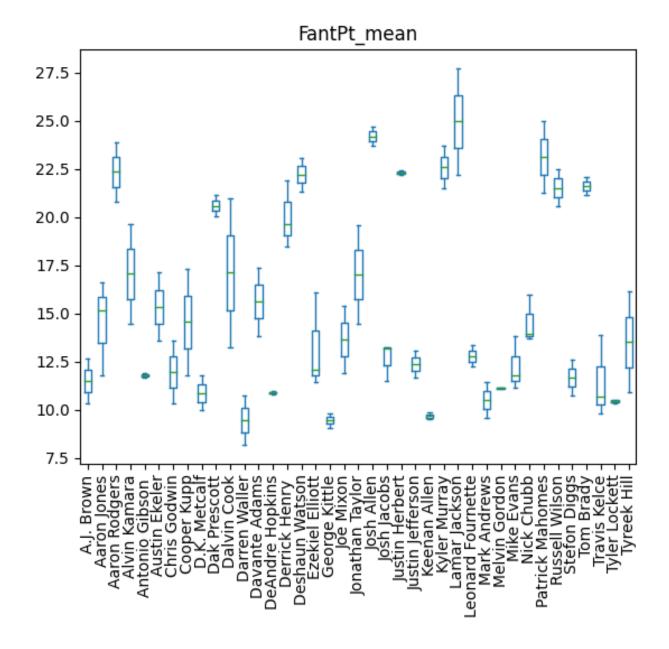
The next best position group was the wide receivers. The wide receiver position group showed more volatility on a year-to-year basis that the quarterbacks and running backs. The best season was by Cooper Kupp in 2021 and Davante Adams had the highest median scores in the timeframe. The wide receivers also had less consistency in regards to being a top performer shown by how 21 of the 33 players in the data set qualified as a top wide receiver more than once.



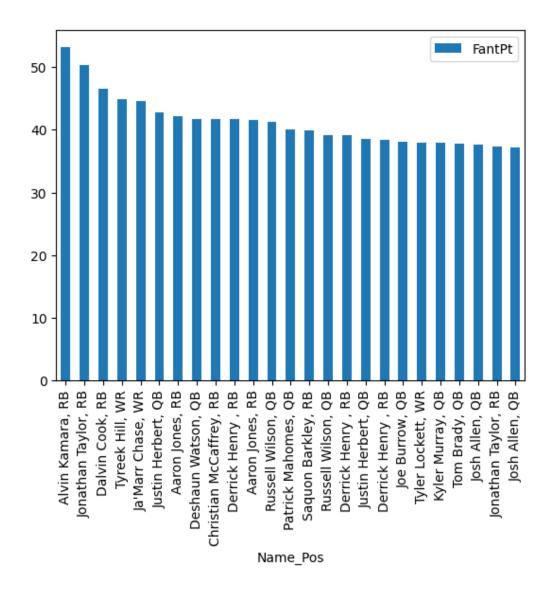
Tight ends were the lowest scoring position group by a wide margin. Of the tight ends only Travis Kelce and Mark Andrews were able to have multiple seasons averaging over 10 FantPts. Kelce was able to have the highest over all as well as the best season.



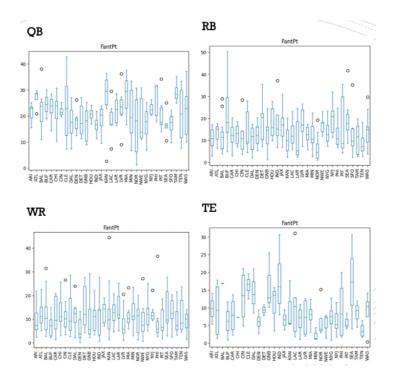
The overall result in the chart below shows that Lamar Jackson was the highest FantPt scorer between 2019 – 2021. Derrick Henry was the only non-quarterback to be in the top 10 of overall scoring. There was a tier separation between each position group with the quarterback being at the top followed by the running backs, wide receivers, and tight ends in that order.



While the quarterbacks had the best season performances when it came to single games the running backs were the best position group. Of the 25 highest FantPt games by a player running backs had 11 and the top three. Alvin Kamara had the highest overall at 53.2 in his week 15 game of 2020. Quarterbacks had 11 total with the highest being by Justin Herbert. Wide receivers had only three games in the top 25 and all tight ends failed to break into the top.



The opposing team matchup by positions varied by each position group. The Kansas City Chiefs allowed the most post to opposing quarterbacks, but interestingly still had one of the lowest FantPts allowed games to a quarterback. It was shown that the New York Jets have been the worst defense at preventing running back FantPts. The Seattle Seahawks gave the most production to tight ends closely followed by the Houston Texans. For the wide receivers it was shown that each team was fairly even in regards to giving up median FantPts to wide recievers. However, the range that the wide receiver FantPt allowed by opposing teams was what set some team apart from others showing the volatility of the position.



## **Conclusion:**

The results show that quarterbacks are the highest scorers of all positions. There are a few elite quarterbacks each year that perform at a level above the rest and those are consistent. It stands to believe that get one of the previous seasons' best quarterbacks, such as Lamar Jackson, Patrick Mahomes, or Josh Allen, on a fantasy team would help give it a strong foundation.

Running backs had the second-best production after quarterbacks and were more consistent than wide receivers and tight ends. They also provided the most upside on a per game basis. If a fantasy team is able to get a top running back it would give a good weekly score with the upside for outlier weeks than could win a matchup.

For wide receivers there is a lot of variances in the performance. This position had some players that were ranked among the best every year like Cooper Kupp and Davante Adams, but overall, there is a good chance that the best wide receivers from last year will not be the best the next.

Tight ends are highly inconsistent and underperform compared to other positions except for Travis Kelce and Mark Andrews. Those two tight ends are the only one that show worthy of drafting highly.

Many fantasy analysts preach about the importance of the opposing matchup a player goes up against. This report showed that is only the case for some positions. When it comes to quarterbacks, running backs, and tight ends there are opposing teams that show to be advantageous matchups. The best for those positions are the Kansas City Chiefs for

quarterbacks, New York Jets for running backs, and Seattle Seahawks for tight ends. However, for wide receiver the allowed FantPts seemed to be consistent across all teams.